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#5	Search electron dense AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:41	<u>0</u>
#4	Search (radioactive) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:25	<u>0</u>
#3	Search colorimetric AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:07	<u>0</u>
#2	Search (fluorescent) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB 1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:47	<u>26</u>
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#5	Search electron dense AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:41	<u>0</u>
#4	Search (radioactive) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:25	<u>0</u>
#3	Search colorimetric AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:45:07	<u>0</u>
#2	Search (fluorescent) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:47	<u>26</u>
#1	Search (green fluorescent protein) AND ("ARRB1" [TIAB] OR "ARRB-1" [TIAB] OR "ARRB 1" [TIAB] OR "ARB1" [TIAB] OR "ARB-1" [TIAB] OR "ARB1" [TIAB] OR "ARR1" [TIAB] OR "ARR-1" [TIAB] OR "ARR 1" [TIAB] OR "Arrestin, beta 1" [TIAB] OR "Beta-arrestin-1" [TIAB])	09:44:13	<u>22</u>


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
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 ARRB1	arrestin, beta 1	ARB1, ARR1, Arrestin, beta 1, Beta-arrestin-1	Hc
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OMIM	107940		
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NCBI RefSeq	NP_064647, more than 1,500 organisms. 80,000 genes. 12 million senten NP_004032 ...always up-to-date		
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These results suggest that **beta-arrestin**  recruited in response to receptor **phosphorylation** by different GRKs distinct functional potentials. [2005]


Low surface deposition and **endocytosis** are dependent on constitutive C-terminal **phosphorylation**, suggesting requirement for **beta-arrestin**  binding in receptor internalization. [2004]

In contrast, corresponding to its inability to cause mu OR internalization, morphine is unable to either elicit mu OR **phosphorylation** or stimulate **beta-arrestin**  **translocation**. [1998]

While both etorphine and morphine effectively activate the delta OR, only etorphine triggers robust delta OR **phosphorylation** followed by **plasma membrane translocation** of **beta-arrestin**  and receptor internalization.


Heterologous activation of protein kinase C stimulates **phosphorylation** of delta-opioid receptor at **serine 344**, re **beta-arrestin** - and clathrin-mediated receptor internalization. [2001]

Receptor mutants that lack any two **phosphorylation** sites retained their ability to recruit endogenous beta-arrest **cell membrane** and were normally sequestered, whereas **alanine** mutation of any three C-terminal **serine** residu abolished both **beta-arrestin**  binding and rapid agonist-induced internalization. [2002]


Determinants in the receptor's core (Asn-289 and Lys-382) appear to regulate internalization of the receptor/**beta arrestin**  complex toward early endocytic **endosomes** during the initial step of **endocytosis**. [2002]


After **angiotensin II** stimulation, both wild-type and **beta-arrestin**  mutants translocated to the **cell membrane**, recruitment was weaker for mutants of the hydrophobic face of helix I. [2005]


It also blocked **beta arrestin**  **translocation** and receptor **downregulation** induced by formyl-Nle-Leu-Phe. [20

These differences in mechanism of action are reflected in the **kinetics** of airway **smooth muscle** relaxation and bronchodilation in patients with asthma. beta-Adrenoceptor desensitization associated with beta2-agonist activation consequence of **phosphorylation** by beta-ARK and uncoupling of the receptor from Gs following **beta-arrestin**  of internalization and recycling of the receptor through processes of sequestration and resensitization and **downr** modulated by an effect on receptor **gene expression**. [1998]

To address this question, we investigated the ability of different muscarinic receptor dimers to recruit **beta-arresti** using both **co-immunoprecipitation** and **fluorescence** microscopy in **COS-7 cells**. [2005]

By **confocal microscopy**, we observed **beta-arrestin 1**  and 2, translocated to the **plasma membrane** and col with D2L and D2S receptors upon stimulation with **dopamine**, and this was followed by the **translocation** of rece **endocytic vesicles**. [2004]

Bioluminescence resonance **energy transfer** analysis revealed that both wild-type and **beta-arrestin**  mutant: a capacity to interact with the AT(1)R, although the interaction with the mutants was less stable. [2005]

For class B receptors (e.g. V2 **vasopressin** receptors), which recycle slowly, **beta-arrestin**  internalizes with th

into **endosomes**. [2003]

Nicotine induces **cell proliferation** by **beta-arrestin** ⚡-mediated activation of Src and Rb-Raf-1 pathways. [2006]
Although still capable of activating phospholipase C, this receptor loses almost completely the ability to recruit **beta-arrestin-1** ⚡ following **carbachol** stimulation in **COS-7 cells**. [2005]

Desensitization to low concentrations of **isoproterenol** (previously shown to be essentially protein kinase A-mediated, not receptor-specific, i.e. heterologous) was not affected by overexpression of either beta ARK or **beta-arrestin** ⚡.

Several GPCRs internalize as a stable complex with **beta-arrestin** ⚡ and the stability of this complex appears to be at least in part, whether the receptors are dephosphorylated in early **endosomes** and recycled back to the cell surface as fully functional receptors, retained in early **endosomes** or targeted for degradation in **lysosomes**. [2003]

Role of **beta-arrestin 1** ⚡ in the metastatic progression of **colorectal cancer**. [2006]

Furthermore, our data implicate a functional role for **beta-arrestin 1** ⚡ as a mediator of cellular migration and **metastasis**. [2006]

To our knowledge this is the first study demonstrating a defined molecular role of **beta-arrestin** [?] ⚡ with direct involvement in **cell growth** and cancer. [2005]

Using *in vitro* binding assays, we have identified two **glutamate** residues (Glu-849 and Glu-902) in beta(2)-adap that are important in **beta-arrestin** ⚡ binding. [2002]

Using receptor **mutagenesis**, we demonstrate that the ability of **beta-arrestin** ⚡ to remain associated with these receptors is mediated by specific clusters of **serine** and **threonine** residues located in the receptor carboxyl-terminal tail. [2002]

High levels of **beta-arrestin-1** ⚡ mRNA and immunoreactivity were found in peripheral blood **leukocytes**. [1993]

Using two cell types, human **endothelial cells** and **smooth muscle cells**, we found that 6-8-h treatments with the inducing agents cholera toxin, forskolin, iloprost, and **isoproterenol** raised **beta-arrestin-1** ⚡ mRNA by 2-4-fold.

The mean **beta-arrestin 1** ⚡ expression was unchanged in the **cytosol** of TTNs, in **membranes** and **cytosol** of TTNs, but decreased in the **membranes** of TTNs compared to their surrounding tissue. [2000]

These data suggest that **beta-arrestin** ⚡ binding, which terminates receptor-G protein coupling, also initiates a second wave of **signal transduction** in which the "desensitized" receptor functions as a critical structural component of a signaling complex. [1999]

Regulation of **tyrosine** kinase activation and granule release through **beta-arrestin** ⚡ by CXCR1. [2000]

ICI118551 and **propranolol** also promoted **beta-arrestin** ⚡ recruitment to the receptor. [2003]

Constitutive protease-activated receptor-2-mediated migration of MDA MB-231 **breast cancer** cells requires both **arrestin-1** ⚡ and -2. [2004]

In contrast, **beta-arrestin** ⚡ mutants displayed enhanced activity at desensitizing the **serotonin 5-hydroxytryptan** receptor. [2004]

The fusion protein of **beta-arrestin 1** ⚡ with **glutathione S-transferase** inhibits the beta(1)- and beta(2)AR-stimulated adenylyl cyclase activities, although inhibition of the beta(1)AR-stimulated activity requires a higher concentration of fusion protein than that of the beta(2)AR-stimulated activity. [2000]

Regulation of muscarinic **acetylcholine** receptor sequestration and function by **beta-arrestin** ⚡. [1999]

In conclusion, agonist-activated hPTH1-Rc internalization involves **beta-arrestin** ⚡ mobilization and targeting to **coated vesicles**. [1999]

Two alternatively spliced isoforms of human **beta-arrestin-1** ⚡, differing only in the presence or absence of 24 **base pairs**/8 amino acids within the sequence, were identified and called beta-arrestin-1A and beta-arrestin-1B, respectively. [1993]

Molecular analysis of human **beta-arrestin-1** ⚡: cloning, **tissue distribution**, and regulation of expression. Identification of two isoforms generated by **alternative splicing**. [1993]

The reduction in **beta-arrestin-1** ⚡ levels was significantly correlated with the severity of **depressive symptoms**.

The findings in human subjects support the implication of **beta-arrestin-1** ⚡ in the pathophysiology of **mood disorders**. [2004]

Mononuclear leukocytes of patients with depression showed significantly reduced immunoreactive quantities of **arrestin-1** ⚡. [2004]

RESULTS: **Beta-arrestin-1** ⚡ levels were significantly elevated by all three antidepressants in rat cortex and

hippocampus, while in the striatum no alterations could be detected. [2004]

METHOD: **Beta-arrestin-1** ⚡ measurements were carried out in cortical, hippocampal, and striatal brain regions chronically intragastrically treated with either imipramine, desipramine, or **fluvoxamine**. [2004]

This **beta-arrestin** ⚡-mediated regulation of transcription appears to play important roles in **cell growth**, **apoptosis**, modulation of immune functions. [2007]

Among all **cell lines**, sequestration correlated best with the product of betaARK and **beta-arrestin** ⚡ expression. Both beta ARK and **beta-arrestin** ⚡ are members of **multigene families**. [1994]

The agonist-stimulated differential sorting of the mGlu(1) receptor and **beta-arrestin** [?] ⚡ as well as the activation of kinases by mGlu(1) agonist was confirmed in cultured cerebellar **Purkinje cells**. [2003]

Utilizing a low stringency hybridization technique to screen a rat brain **cDNA library**, we have now isolated cDNA representing two distinct **beta-arrestin** [?] ⚡-like genes. [1992]

Addition of recombinant purified **beta-arrestin-1** mimicked human chorionic gonadotrophin to promote desensitization of human chorionic gonadotrophin-stimulated AC activity, in the presence of the ATP **phosphorylation** antagonist **2-imidodiphosphate**, with an ED50 of approximately 0.1 nM. [1999]

The localization of the alpha(1B)-ARs and AT(1A)Rs with **arginine** substitutions can be restored to the **plasma membrane** by either using selective antagonists or preventing the **endocytosis** of the **beta-arrestin** [?]-receptor complexes.

Internalization of the ligand did not occur in **beta-arrestin** [?]-deficient cells; was blocked or reversed by another ligand, **phenolamine**, indicating it to reflect binding to the orthosteric recognition site; and was prevented by blocking clathrin-mediated **endocytosis**. [2005]

Increased levels of an 87-kDa protein reactive with **glycoprotein** hormone R-reactive antibody, consistent with the R, coimmunoprecipitated with follicular membrane **beta-arrestin-1** in response to LH/CG R activation compared to unactivated R. [1999]

While AT(1A) receptor internalization could be inhibited by a dominant-negative **beta-arrestin 1** mutant (beta arr1 418), treatment with hyperosmotic **sucrose** to inhibit internalization did not abrogate the differences in arrestin association observed between the wild-type and mutant receptors, indicating that arrestin binding precedes, and is not dependent on, receptor internalization. [2001]

Of particular note are the recent findings regarding recruitment of cyclic nucleotide phosphodiesterase to **beta-arrestin** transfected HEK293 cells and in native **cardiac myocytes**. [2003]

Alteration of sites of **acylation** reduced internalization and prevented interactions with **beta-arrestin** [?] 1-GFP. [2004]

In contrast, no change in the subcellular distribution of **adenylyl cyclase** or **beta-arrestin 1** and 2 was observed.

The identification of the ubiquitin-proteasome pathway and **beta-arrestin** as molecular targets of neurotoxicity is important to provide novel therapeutic strategies both for the treatment of **drug addiction** and the treatment of **neurodegenerative disorders**. [2006]

Our choice of screening platform was the TransfluoR **beta-arrestin-green fluorescent protein translocation** assay. Full-length human orphan GPCRs were stably expressed in a U-2 OS cell background. [2006]

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Role of the G protein-coupled receptor kinase site serine cluster in beta2-adrenergic receptor internalization, desensitization, and beta-arrestin translocation.

J Biol Chem. 2006 Mar 17;281(11):7684-92. Epub 2006 Jan 3.

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The novel ATP-binding cassette protein ARB1 is a shuttling factor that stimulates 40S and 60S ribosome biogenesis.

Mol Cell Biol. 2005 Nov;25(22):9859-73.

PMID: 16260602 [PubMed - indexed for MEDLINE]

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Beta-arrestin mediates desensitization and internalization but does not affect dephosphorylation of the thyrotropin-releasing hormone receptor.

J Biol Chem. 2005 Nov 18;280(46):38346-54. Epub 2005 Sep 23.

PMID: 16183993 [PubMed - indexed for MEDLINE]

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Caenorhabditis elegans arrestin regulates neural G protein signaling and olfactory adaptation and recovery.

J Biol Chem. 2005 Jul 1;280(26):24649-62. Epub 2005 May 6.

PMID: 15878875 [PubMed - indexed for MEDLINE]

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beta-Arrestin 1 and Galphq/11 coordinately activate RhoA and stress fiber formation following receptor stimulation.

J Biol Chem. 2005 Mar 4;280(9):8041-50. Epub 2004 Dec 16.

PMID: 15611106 [PubMed - indexed for MEDLINE]

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Agonist-dependent internalization of the angiotensin II type one receptor (AT1): role of C-terminus phosphorylation in recruitment of beta-arrestins.

Regul Pept. 2004 Aug 15;120(1-3):141-8.
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Recycling and resensitization of the neurokinin 1 receptor. Influence of agonist concentration and Rab GTPases.

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Distinct regulation of internalization and mitogen-activated protein kinase activation by two isoforms of the dopamine D2 receptor.

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Human substance P receptor lacking the C-terminal domain remains competent to desensitize and internalize.

J Neurochem. 2003 Feb;84(4):854-63.
PMID: 12562528 [PubMed - indexed for MEDLINE]

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Phosphorylation of key serine residues is required for internalization of the complement 5a (C5a) anaphylatoxin receptor via a beta-arrestin, dynamin, and clathrin-dependent pathway.

J Biol Chem. 2003 Feb 7;278(6):4277-85. Epub 2002 Dec 2.
PMID: 12464600 [PubMed - indexed for MEDLINE]

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Homo- and hetero-oligomerization of thyrotropin-releasing hormone (TRH) receptor subtypes. Differential regulation of beta-arrestins 1 and 2.

J Biol Chem. 2002 Dec 27;277(52):50422-30. Epub 2002 Oct 21.
PMID: 12393857 [PubMed - indexed for MEDLINE]

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PMID: 11358334 [PubMed - indexed for MEDLINE]

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Visualizing differences in ligand-induced beta-arrestin-GFP interactions and trafficking between three recently characterized G protein-coupled receptors.

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

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UniProt	P32121, Q59EM5, Q6ICT3		
OMIM	107941		
NCBI Gene	409		
NCBI RefSeq	NP_945355, NP_004304	more than 1,500 organisms. 80,000 genes. 12 million sentences ...always up-to-date	
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
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Moreover, stimulation of the angiotensin II type 1A receptor activated JNK3  and triggered the colocalization of arrestin 2  and active JNK3  to intracellular vesicles. [2000]

PTH-related protein analogs modified at position 1 induced selective stabilization of the active G protein-coupled receptor, resulting in lack of beta-arrestin-2  recruitment to the cell membrane, sustained cAMP signaling, absence of ligand-receptor complex internalization. [2002]



Angiotensin II type 1 receptors (AT1-Rs) are coupled to the contraction-mediating RhoA /Rho-kinase pathway. be desensitized by phosphorylation through G-protein-coupled receptor [?] kinases (GRKs) and binding of beta-arrestin-2 [?] . [2007]




These data suggest that beta-arrestin 2  can mediate chemotaxis through mechanisms which may be G-protein independent (Ang II receptors) or -dependent (LPA receptors). [2005]





Dishevelled 2 [?]  recruits beta-arrestin 2  to mediate Wnt5A-stimulated endocytosis of Frizzled 4 . [2000]





Endocytosis of Frizzled 4  (Fz4 ) in human embryonic kidney 293 cells was dependent on added Wnt5A protein was accomplished by the multifunctional adaptor protein beta-arrestin 2  (betaarr2), which was recruited to Fz4 binding to phosphorylated Dvl2 [?] . [2003]


Beta-arrestin 2  mediates endocytosis of type III TGF-beta [?]  receptor and down-regulation of its signaling.




We identified c-Jun amino-terminal kinase 3 (JNK3 ) as a binding partner of beta-arrestin 2  using a yeast two-hybrid screen and by coimmunoprecipitation from mouse brain extracts or cotransfected COS-7 cells. [2000]

The role of beta-arrestin  was further confirmed by showing that transfection of beta-arrestin 2  in these kidney cells restored ICI118551 promoted ERK1 /2 activation. [2003]

Further experiments revealed that overexpression of beta-arrestin 2  enhanced the p53 [?] -mediated apoptosis while suppression of endogenous beta-arrestin 2  expression by RNA interference technology considerably attenuated the p53 [?] -mediated apoptosis. [2003]

The increased beta-arrestin 2  expression in TTNs and the desensitization of the TSH receptor by beta-arrestin 2  in vitro suggest that the beta-arrestin 2  expression is cAMP dependent and that beta-arrestin 2  is very likely downstream of the constitutively activated TSH receptor in toxic thyroid nodules. [2000]

Independent beta-arrestin 2  and G protein-mediated pathways for angiotensin II activation of extracellular signal-regulated kinases 1 and 2. [2003]

Activation of GPCRs led to formation of a ternary complex of Mdm2 [?] , beta-arrestin 2 , and GPCRs and then recruited Mdm2 [?]  to GPCRs at plasma membrane. [2003]

Beta-arrestin 2 -dependent angiotensin II type 1A receptor-mediated pathway of chemotaxis. [2005]

In parallel, stimulation of the wild-type **angiotensin** type 1A receptor with **Ang II** robustly stimulates **ERK1** [?] ☆; with approximately 60% of the response blocked by the PKC inhibitor (**G protein** dependent) and the rest of the response blocked by depletion of cellular **beta-arrestin 2** ☆ by small interfering RNA (**beta-arrestin** ☆ dependent). [2003]

We show in real time and in live human embryonic kidney (HEK-293) cells that a **beta-arrestin-2** ☆-green fluorescent protein conjugate internalizes into **endocytic vesicles** with agonist-activated neurotensin-1 receptor, **oxytocin receptor**, **angiotensin II** type 1A receptor, and **substance P receptor** ☆. [2001]

This desensitization process coincides with a redistribution of **GRK2** ☆ from the **cytosol** to the **plasma membrane** followed by a robust redistribution of **beta-arrestin 2** ☆ and a profound change in cell morphology that occurs after **SPR** ☆ stimulation. [1999]

We find that two molecules interact with mammalian Smo in an activation-dependent manner: **G protein-coupled kinase 2** ☆ (**GRK2** ☆) leads to **phosphorylation** of Smo, and **beta-arrestin 2** ☆ fused to green fluorescent protein interacts with Smo. [2004]

The **glucagon-like peptide-2 receptor** ☆ C terminus modulates **beta-arrestin-2** ☆ association but is dispensable for ligand-induced desensitization, **endocytosis**, and **G-protein**-dependent effector activation. [2005]

This study has focused on enhancing the signal generated from the interaction between a **G-protein-coupled receptor** (GPCR [?]) and **beta-arrestin 2** ☆ (beta-arr2), measured by the **bioluminescence resonance energy transfer** (BRET) technology. [2004]

MOR363D underwent slower internalization as reflected in the attenuation of membrane **translocation** of **beta-arrestin 2** ☆ when compared with wild type MOR, but the level of receptor being internalized was similar to that of wild type MOR after 1 h of etorphine treatment. [2003]

Regulation of **GRK 2** ☆ and 6, **beta-arrestin-2** ☆ and associated proteins in the **prefrontal cortex** of drug-free and antidepressant drug-treated subjects with major depression. [2003]

In contrast, expression of **beta-arrestin 1** ☆ and **beta-arrestin 2** ☆ by osteoblastic cells varied between cell lines. **Chromosome** mapping of the human arrestin (SAG), **beta-arrestin 2** ☆ (**ARRB2** ☆), and **beta-adrenergic receptor kinase 2** ☆ (**ADRBK2** ☆) genes. [1994]

Conversely, suppression of **beta-arrestin 1** ☆, but not **beta-arrestin 2** ☆, expression by using **RNA interference** results in a 10-fold increase in tumor necrosis factor-stimulated NF-kappaB activity as measured by NF-kappaB mobility-shift analysis. [2004]

Surprisingly, although the truncated mutant receptors failed to interact with **beta-arrestin-2** ☆, they underwent no desensitization and subsequent resensitization with **kinetics** similar to that observed with the wild-type **GLP-2R** ☆.

Co-expression of **PAR1** [?] ☆ with **beta-arrestin 1** ☆ (betaarr1) in **COS-7 cells** resulted in a marked inhibition of [?] ☆ signaling, whereas **beta-arrestin 2** ☆ (betaarr2) was essentially inactive. [2004]

Of all the **retinoid** receptors, the **RAR beta2** subtype showed the strongest sensitivity to **beta-arrestin 2** ☆ action. Moreover, an agonist-mediated **translocation** of wild-type beta2AR and endogenous **beta-arrestin 2** ☆ to **endocytic vesicles** prepared from CHO **fibroblasts** was observed. [1997]

In summary, contrary to data obtained for the **beta2AR** ☆, the constitutive activation of the **TSHR** ☆ does not influence desensitization and time course for internalization of the receptor, and in agreement with findings for the FSH and LH receptors, these results characterize the **TSH receptor** as a member of the class A of **G protein**-coupled receptors that have a higher affinity to **beta-arrestin 2** ☆ than **beta-arrestin 1** ☆ and do not colocalize with beta-arrestins in **endosomes**. [2006]

In the present study, we demonstrated that repeated s.c. treatment with etorphine, but not morphine, produced a dose-dependent increase in protein levels of **G protein-coupled receptor kinase 2** ☆, **dynamitin** [?] II, **beta-arrestin 2** ☆ and phosphorylated-conventional protein kinase C in **membranes** of the mouse **spinal cord**, suggesting that the etorphine-induced mu-opioid receptor desensitization may result from **G protein-coupled receptor kinase 2** ☆/dynamitin II/III/IV/alpha-arrestin2-dependent **phosphorylation** of mu-opioid receptors. [2006]

Gene-wide tests, adjusted for the number of **SNPs** analysed in each gene, identified associations with **TPH2** ☆, **ASPM**, **SYP**, **DAT1** ☆, **ADRB2** ☆, **HES1** ☆, **MAOA** ☆ and **PNMT** ☆. [2006]

Overexpression of either **beta-arrestin 1** ☆ or **beta-arrestin 2** ☆ led to marked inhibition of NF-kappaB activity, as measured by **reporter gene** activity. [2004]

In the present study, we have investigated the expression of the individual isoforms of **beta-arrestin** ☆ and of **beta-arrestin 1** ☆ in **left ventricles** from failing and control human hearts. mRNAs for all four proteins, **beta-arrestin-1** ☆, **beta-arrestin-2** ☆, **beta ARK-1** ☆, and **beta ARK-2** ☆, were identified in human heart. [1994]

Our data suggest that in cirrhosis-induced vasodilation, the AT1-R is desensitized by GRK-2 and beta-arrestin 2 and that changed patterns of phosphorylated Ca(2+) sensitizing proteins decrease Ca(2+) sensitivity. [2007]
Cell surface distribution and agonist-promoted internalization of receptors and recruitment of beta-arrestin 2 w unaffected by the loss of 187 glycosylation. [2004]

However, upon coexpression of arrestin-2 (beta-arrestin-1) or arrestin-3 (beta-arrestin-2), internalization of alpha2b AR was dramatically enhanced and redistribution of receptors to clathrin coated vesicles and endosome observed. [1999]

However, in the same cell lines under the same conditions, overexpression of beta-adrenergic receptor kinase beta-arrestin 2 accelerated the rate of DPDPE- but not DAMGO-induced receptor desensitization. [1999]

Here, we report that beta-arrestin 2 stimulates the transcriptional activation of the retinoid RAR and RXR receptors. [2006]

Using Xenopus laevis oocytes coexpressing mammalian mu-opioid receptors (MORs), beta-adrenergic receptor kinase beta-ARK2 [also called G protein-coupled receptor kinase (GRK3)], and beta-arrestin 2 (beta-arrestin 2) compared the rates of beta-ARK2 (GRK3)- and beta-arrestin 2-mediated homologous receptor desensitization produced by treatment with opioid agonists of different efficacies. [1998]

In the presence of C2 alone, CRIT associates with the adapter protein, beta-arrestin-2, and whether in association with C2 or not, then appears in the perinuclear region, but does not appear to be translocated into the nucleus.

Characterization of isoprenaline- and salmeterol-stimulated interactions between beta2-adrenoceptors and beta-arrestin 2 using beta-galactosidase complementation in C2C12 cells. [2005]

Isoprenaline, noradrenaline, and adrenaline (-log EC(50) = 5.9, 5.5, and 5.7, respectively) stimulated an association between the beta(2)-adrenoceptor and beta-arrestin 2 at much higher concentrations than required for activation of cAMP accumulation (-log EC(50) = 7.6, 6.3, and 7.7, respectively). [2005]

The results indicate that opiate addiction in humans (tolerant state) is associated with down-regulation of brain opioid receptors and regulatory GRK 2/6 and beta-arrestin-2 proteins. [2004]

G protein-coupled receptor kinases, beta-arrestin-2 and associated regulatory proteins in the human brain: postmortem changes, effect of age and subcellular distribution. [2002]

Although beta-arrestin 1 and beta-arrestin 2 are important for these effects induced by opioids with high in vivo efficacy such as etorphine and fentanyl, morphine tolerance may be mediated mainly via beta-arrestin 2. [2000]

4. The results suggest that VOL induces an increase in the expression of lymphocyte beta2-adrenoceptor-specific GRK and beta-arrestin 2 in association with an attenuation in beta2-adrenoceptor levels. [2002]

Studies in mice have shown that beta-arrestin-2 plays an important role in the development of morphine-induced tolerance, constipation, and respiratory depression. [2007]

Periaqueductal gray (PAG) is a potential structure where morphine produces its antinociception, but it is unclear whether beta-arrestin 2 plays its regulatory effect on morphine at PAG. [2006]

The genes for phosphatidylinositol transfer protein (PITPN), retinal guanylate cyclase (GUC2D), beta-arrestin 2 (ARRB2), pigment epithelium-derived factor (PEDF) and recoverin (RCV1) map to this region and are candidate genes for retinal disease. [1996]

In contrast, B1Rs, which are inducible and constitutively active, constitutively internalize without agonist via a clathrin-dependent pathway, do not recruit beta-arrestin 2, bind G protein-coupled receptor sorting protein, and target lysosomes for degradation. [2007]

Cotransfection of M3 cells with the c-Myc-tagged hMC2R and beta-arrestin-2-green fluorescence protein also revealed that beta-arrestin-2-green fluorescence protein and c-Myc-hMC2R were redistributed into similar intracellular vesicles through a clathrin-dependent, but caveolae-independent, process. [2006]

Possible association of beta-arrestin 2 gene with methamphetamine use disorder, but not schizophrenia. [2007]

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